

## CETRIS® ECO BASIC

Cement bonded particleboard with recycled content, smooth surface in natural grey cement colour

CETRIS® ECO BASIC is a cement bonded particleboard with a smooth surface in natural grey cement colour. It is made by pressing a mixture of wood chips (21 wt %), Portland cement (63 wt %), processed waste from cement bonded particleboard production (4 wt %), water (10 wt %) and hydration additives (2 wt %), as standard in thicknesses of 30, 32, 34, 36, 38 and 40 mm. The basic board size is 3,350 × 1,250 mm.

The boards can be supplied cut to the size required by the customer.

Cement bonded particleboards are intended primarily as a construction material where moisture resistance, strength and environmental and hygienic safety are required at the same time. CETRIS® boards contain neither asbestos nor formaldehyde and are resistant to insects and mould. They are sound-insulating. The boards can be worked with ordinary woodworking tools.

**About the surface appearance.** When using CETRIS® BASIC, the composition and origin of the board must be taken into account – it is a cement product. Free lime particles in the Portland cement can migrate to the board surface, and on contact with air carbonation may occur, leaving efflorescence that disturbs the uniform appearance of the surface. The colour of the board surface is not uniform, and complaints on grounds of appearance therefore cannot be accepted.

### Technical specification

|                                           |                               |
|-------------------------------------------|-------------------------------|
| <b>Basic size</b>                         | 3,350 × 1,250 mm              |
| <b>Board thicknesses</b>                  | 30-32-34-36-38-40 mm          |
| <b>Density</b>                            | 1,150–1,500 kg/m <sup>3</sup> |
| <b>Machining to customer requirements</b> | cutting                       |
| <b>Surface</b>                            | smooth                        |
| <b>Surface treatment</b>                  | without surface treatment     |

### Basic physical and mechanical properties

| Property                                                                                   | Standard limit values        | Measured mean values          |
|--------------------------------------------------------------------------------------------|------------------------------|-------------------------------|
| Density according to ČSN EN 323                                                            | min. 1,000 kg/m <sup>3</sup> | 1,350–1,500 kg/m <sup>3</sup> |
| Bending tensile strength according to ČSN EN 310                                           | min. 9.0 N/mm <sup>2</sup>   | min. 11.5 N/mm <sup>2</sup>   |
| Modulus of elasticity according to ČSN EN 310                                              | min. 4,500 N/mm <sup>2</sup> | min. 6,800 N/mm <sup>2</sup>  |
| Tensile strength perpendicular to the board plane according to ČSN EN 319                  | min. 0.5 N/mm <sup>2</sup>   | min. 0.63 N/mm <sup>2</sup>   |
| Internal bond after cycling in humid conditions according to ČSN EN 321                    | min. 0.3 N/mm <sup>2</sup>   | min. 0.41 N/mm <sup>2</sup>   |
| Reaction to fire according to EN 13501-1                                                   |                              | B-s1,d0                       |
| Surface flame spread index according to ČSN 73 0863                                        |                              | i = 0 mm/min                  |
| Thickness swelling after 24 hours of water immersion                                       | max. 1.5 %                   | max. 0.28 %                   |
| Thickness swelling after cycling in humid conditions according to ČSN EN 321               | max. 1.5 %                   | max. 0.31 %                   |
| Linear expansion at a moisture change from 35 % to 85 % at 23 °C according to ČSN EN 13009 |                              | max. 0.122 %                  |

| Property                                                                                       | Standard limit values                                                                                                         | Measured mean values                                                                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Water absorption after 24 hours of water immersion                                             |                                                                                                                               | max. 16 %                                                                                                                        |
| Coefficient of thermal expansion according to ČSN EN 13471                                     |                                                                                                                               | $10 \times 10^{-6} \text{ K}^{-1}$                                                                                               |
| Thermal conductivity according to ČSN EN 12664, thickness 8–40 mm                              |                                                                                                                               | 0.200–0.287 W/mK                                                                                                                 |
| Airborne sound insulation according to ČSN 73 0513, thickness 8–40 mm                          |                                                                                                                               | 30 dB – 35 dB                                                                                                                    |
| Vapour diffusion resistance according to ČSN EN ISO 12572, thickness 8–40 mm                   |                                                                                                                               | 52.8 – 69.2                                                                                                                      |
| Frost resistance after 100 cycles according to ČSN EN 1328                                     | $R_L > 0.7$                                                                                                                   | $R_L = 0.97$                                                                                                                     |
| pH of the board material                                                                       |                                                                                                                               | 12.5                                                                                                                             |
| Specific activity of Ra 226                                                                    | 150 Bq/kg                                                                                                                     | 22 Bq/kg                                                                                                                         |
| Activity index                                                                                 | $I = 0.5$                                                                                                                     | $I = 0.21$                                                                                                                       |
| Resistance of the board surface to water and chemical de-icing agents according to ČSN 73 1326 | Scaling after 100 cycles max. 800 g/m <sup>2</sup> (method A)<br>Scaling after 75 cycles max. 800 g/m <sup>2</sup> (method C) | Scaling after 100 cycles max. 20.4 g/m <sup>2</sup> (method A)<br>Scaling after 100 cycles max. 47.8 g/m <sup>2</sup> (method C) |
| Resistance to high-voltage, low-current arc discharge according to EN 61621                    |                                                                                                                               | thickness 10 mm, min. 143 s                                                                                                      |
| Coefficient of sliding friction according to ČSN 74 4507                                       |                                                                                                                               | static $\mu_s = 0.73$<br>dynamic $\mu_d = 0.76$                                                                                  |
| Equilibrium moisture content at 20 °C and 50 % relative humidity according to EN 634-1         | $9 \pm 3 \%$                                                                                                                  | 9.50 %                                                                                                                           |

## Dimensional tolerances

| Property                                    | Board thickness | Requirement          |
|---------------------------------------------|-----------------|----------------------|
| <b>Thickness, unsanded board</b>            | 30–40 mm        | $\pm 1.5 \text{ mm}$ |
| <b>Length and width, basic size</b>         | 30–40 mm        | $\pm 5.0 \text{ mm}$ |
| <b>Cutting accuracy in length and width</b> | 30–40 mm        | $\pm 3.0 \text{ mm}$ |
| <b>Edge straightness tolerance</b>          | 30–40 mm        | 1.5 mm/m             |
| <b>Squareness tolerance</b>                 | 30–40 mm        | 2.0 mm/m             |

## Appearance

| Parameter                         | Quality class I       | Quality class II       |
|-----------------------------------|-----------------------|------------------------|
| <b>Deviation from right angle</b> | max. 2 mm/1 m length  | max. 4 mm/1 m length   |
| <b>Permitted edge damage</b>      | max. up to 3 mm depth | max. up to 30 mm depth |
| <b>Protrusions in the surface</b> | max. 1 mm, size 10 mm | max. 1 mm              |
| <b>Depressions</b>                | max. 1 mm, size 10 mm | max. 2 mm              |

The ČSN designations refer to the Czech national editions of the respective European standards and have been kept as in the manufacturer's original. Where a harmonised EN standard exists, its Swedish edition is SS-EN with the same number.